SUMMARY AND INTEGRATION OF IMPACT ANALYSIS FINDINGS — CHAPTER 8

This chapter summarizes and integrates the findings of the biological, economic, and social impact analyses from the preceding chapters, allowing a broad assessment of the relative merits of the regulatory alternatives considered in this environmental impact statement.

8.1 BIOLOGICAL IMPACTS

8.1.1 Impacts on Whales

The gear modification requirements are a key component of the Atlantic Large Whale Take Reduction Plan (ALWTRP) modifications under consideration. The major requirements affecting whale survival include:

- **Groundline Requirements:** The requirement to use non-floating groundline is designed to reduce the likelihood of interactions between large whales and fishing gear by reducing the amount of line in the water column. Thus, requiring the use of non-floating groundline would directly benefit large whales by reducing the likelihood of entanglement.

- **Buoy Line Requirements:** The regulatory changes under consideration would extend universal buoy line requirements (which prohibit any portion of the buoy line floating at the surface) to a number of new fisheries. The extension of this requirement to these fisheries could benefit large whales by reducing the frequency or severity of entanglement in buoy lines and associated gear.

- **Weak Link and Anchoring Requirements:** The potential regulatory changes analyzed include provisions requiring that lobster and other trap/pot gear employ weak links on all buoy lines. The specified strength and placement of weak links is designed so that, if a large whale does become entangled, it could exert enough force to break the weak link and

break free of the gear. Thus, the risk of serious injury or mortality would be reduced.

- **Set Restrictions and Gear Stowing Requirements:** The potential regulatory changes under analysis include several restrictions on where and when gillnet gear could be used. The night set restrictions under consideration are designed to reduce the risk that poor visibility would contribute to an entanglement; the prohibition on the use of strikenets when visibility is less than 500 yards has a similar purpose. The requirement that driftnet vessels in the Northeast and Mid-Atlantic remove their gear from the water and stow it on board before returning to port is designed to ensure that any interactions between driftnets and whales would be observed and reported in a timely fashion, permitting a more rapid response.

In addition to gear modification requirements, the potential changes to the ALWTRP include a range of restrictions on the location and timing of fishing activity. These include: the expansion of the SAM zone under Alternatives 5 and 6 (one of two Preferred alternatives); seasonal closures of newly regulated fisheries in restricted areas; expansion of the geographic scope of monitoring and restricted areas; changes to exempted waters in the Northeast and Mid-Atlantic; deep water exemptions; inclusion of other trap/pot vessels in the SAM and DAM programs; and the inclusion of seasonal restrictions on fishing activity in the Southeast and/or Mid-Atlantic. The general objective of all these potential changes is to limit interactions between whales and regulated trap/pot and gillnet gear while avoiding implementation of costly requirements that yield limited risk reduction.

8.1.2 Other Biological Impacts

In addition to impacts on large whale species, changes to ALWTRP regulations may affect other aspects of the marine environment, including other protected species, essential fish habitat, and directed catch and bycatch. Analysis of these issues suggests no significant difference among Alternatives 2 through 6 with respect to impacts on essential fish habitat, directed catch, or bycatch; in each case, the impacts are generally expected to be minor. The alternatives differ, however, with respect to the ancillary benefits they would afford other protected species. These differences stem from differences in the extent to which the alternatives would mandate broad-based gear modification requirements that could prove beneficial to potentially affected species of whales, porpoises, dolphins, seals, and sea turtles. Under Alternative 5, for example, broad-based gear modification requirements would not be imposed; as a result, any ancillary benefits to other protected species would be limited primarily to those associated with the expansion of SAM requirements to additional fisheries and additional areas. Under Alternative 2, however, broad-based gear modification requirements would be in effect in all ALWTRP-regulated waters at all times; thus, protected species that inhabit Mid-Atlantic or Southeast waters year-round, such as bottlenose dolphins, would benefit from these requirements throughout the year. Alternatives 3 (Preferred), 4, and 6 (Preferred) would also impose broad-

based gear modification requirements, but would do so on a seasonal basis in the Mid-Atlantic and Southeast; during the periods that these requirements would be in effect, they would offer ancillary benefits to other protected species.

8.1.3 Comparison of Biological Impacts Across Alternatives

The biological impacts analysis is based on a set of quantitative and qualitative indicators that allow comparison of the risk reduction associated with the regulatory alternatives (see Exhibit 8-1). These indicators suggest that, aside from Alternative 1 (No Action), Alternative 5 is the only regulatory alternative that differs significantly from the others. The beneficial impacts associated with Alternative 5 would be significantly less than those associated with the other alternatives under consideration, primarily because Alternative 5 would not impose as broad a set of gear modification requirements.

8.2 ECONOMIC IMPACTS

This section summarizes the costs of complying with the requirements under each of the ALWTRP regulatory alternatives, reviewing both average vessel compliance and industry-wide compliance costs.

8.2.1 Average Vessel Compliance Costs

The economic impact analysis first calculates the compliance costs for model vessels, defined by species sought and fishing location. Average vessel compliance costs include both the expenses associated with reconfiguring gear as required under the new ALWTRP regulations and the costs (or savings, for some vessel groups) associated with replacing gear more (or less) frequently due to gear loss.

The cost associated with converting trap/pot and gillnet gear to comply with the ALWTRP modifications includes the labor and material costs associated with weak links, groundline, gear marking, buoy line, and anchoring modifications. Average annual costs are derived based on costs that would be incurred in year one of the regulation (2005)[1], the second and third phase-in years, 2008, and on an ongoing basis thereafter. A seven percent discount rate is used to annualize all costs. Appendix 6-C provides a detailed discussion of the individual parameters used in estimating gear conversion costs.

In addition, certain ALWTRP gear modifications could affect gear loss. The analysis assumes that vessels converting from floating groundline and buoy line to sinking and/or neutrally buoyant line, as well as vessels using only one buoy line, would lose approximately

[1] Please note that the date of January 1, 2005 was selected for the purpose of analyzing the impacts of the proposed alternatives in this DEIS. However, the implementation of regulations associated with this date in the DEIS would become effective six months after publication of a final rule.

five to ten percent more gear each year. In contrast, vessels currently subject to SAM area regulations would lose up to five percent less gear each year due to relaxed restrictions such as using a second buoy line and converting one-third of non-floating or neutrally buoyant buoy line to floating line.

Exhibit 8-1

COMPARISON OF IMPACTS BY ALTERNATIVE: QUANTITATIVE RISK REDUCTION INDICATORS[1]

	Regulatory Alternatives					
	No Action 1	**2**	**Preferred 3**	**4**	**5**	**Preferred 6**
Changes in the Number of Affected Vessels						
Newly regulated lobster trap/pot vessels	0	11	11	11	11	11
Newly regulated gillnet vessels[2]	0	616	604	615	604	604
Newly regulated other trap/pot vessels	0	415	413	415	413	413
Major Gear Requirements						
Fathoms of groundline converted (millions)[3]	0	43.1	43.0	43.1	0.2	43.0
Fathoms of buoy line with weak links installed on all flotation and/or weighted devices (millions)	0	30.6	30.6	30.6	30.6	30.6
Number of weak links installed on all flotation and/or weighted devices off the main buoy line (thousands)	0	347.2	346.4	347.1	345.9	345.9
Number of gillnet net panels with 5 or more weak links installed (thousands)*	0	125.7	124.8	125.7	2.1	124.8
Number of gillnet net panels with 1 weak link installed (thousands)	0	60.7	59.7	60.7	118.6	59.7
Number of gillnet strings with anchors installed (thousands)	0	2.9	2.9	2.9	<0.1	2.9
Number of new gear marks (millions)	0	1.8	1.8	1.8	1.8	1.8
Set and Stow Restrictions						
Newly affected vessels - night set restrictions[2]	0	56	44	45	44	44
Newly affected vessels - gear stowing restrictions[2]	0	614	604	614	604	604
Newly affected vessels – one buoy line per trawl of four traps or fewer[4]	0	19	19	19	19	19
Critical Habitat Area Restrictions[5]						
Newly regulated vessels in Great South Channel (April 1 – June 30)	0	<1	<1	<1	<1	<1
Newly regulated vessels in Cape Cod Bay (January 1 – May 15)	0	2	2	2	2	2
Fathoms of buoy line converted in Cape Cod Bay (January 1 – May 15)	0	41	41	41	41	41
SAM Program[6]						
Newly regulated vessels in SAM program[6, 7]	0	<1	<1	<1	25	25
Fathoms of buoy line converted[6, 8]	0	908	908	908	8,463	8,463
Number of buoy lines eliminated[6]	0	6	6	6	NA	NA
DAM Program[9]						
Newly regulated vessels in DAM program	0	265	264	265	NA	NA
Fathoms of buoy line converted	0	369,732	368,810	369,732	NA	NA
Seasonality						
Number of Trips Subject to Low-Risk Gear Requirements	0	51,702	48,349	51,305	48,349	48,349
Area-Days: Trap/pot (millions)[10]	0	91.9	47.8	78.7	47.8	47.8
Area-Days: Gillnet (millions)[10]	0	92.8	48.1	79.0	48.1	48.1

Key:
NA = not applicable

Notes:

1 Numbers presented in this table represent changes incremental to the baseline. Since Alternative 1 is equivalent to no action, all values equal zero.

2 Estimates of newly regulated vessels assume that 50 percent of Mid-Atlantic driftnet vessels are currently regulated by ALWTRP requirements that apply in the Mid-Atlantic from December 1 through March 31. All others (i.e., those active only between April 1 and November 30) would be newly regulated.

3 Under Alternatives 2 through 6, this number includes groundline that would be converted as a result of SAM, DAM, and Critical Habitat Area Restrictions, as well as groundline that would be converted as a result of broad-based gear modification requirements.

4 This restriction is a new requirement for other trap/pot vessels fishing in Northern Nearshore waters and Stellwagen Bank/Jeffrey's Ledge.

5 The use of driftnets or anchored float gillnets would be prohibited in the Cape Cod Bay Restricted Area from January 1 through May 15, and in the Great South Channel Restricted Gillnet Area from April 1 through June 30. The use of mixed species trap/pot gear would be prohibited in the Great South Channel Restricted Area from April 1 through June 30.

6 Under Alternatives 2 through 4 and 6, the SAM program and all gear requirements unique to this program would be eliminated in 2008.

7 Under Alternatives 2 through 4, this figure represents the number of other trap/pot vessels that would be newly subject to SAM requirements. Under Alternatives 5 and 6, this figure also includes the change in the number of vessels subject to SAM requirements as a result of changes in the SAM zone's boundaries.

8 Until 2008, Alternatives 2 through 4 would require that buoy lines be made entirely of non-floating line. Under Alternatives 5 and 6, vessels would be allowed to use floating line in the bottom third of the buoy line. Under Alternatives 5 and 6, this figure represents the net change in the fathoms of buoy line converted, including both increases and decreases in buoy line converted as a result of changes in the SAM zone's boundaries.

9 Under Alternatives 2 through 4, the DAM program and all gear requirements unique to this program would be eliminated in 2008. Under Alternatives 5 and 6, the program would be eliminated six months after the rule's promulgation.

10 This indicator is calculated by multiplying the square nautical miles of protected area by the number of days that seasonal gear modification requirements apply.

* In this DEIS, based on the best available information, it was assumed that anchored gillnet vessels in the Northeast and Mid-Atlantic fish net panels that average 50 fathoms (300 feet) in length. Thus, for these areas, gillnet vessels were analyzed as utilizing five weak links per net panel.

8.2.2 Total Industry Compliance Costs

Once compliance costs for the model vessels are calculated, the analysis estimates the number of vessels represented by each model vessel (i.e., the number of vessels within a particular category). The analysis uses data on Federal and state-permitted vessels to estimate the number of vessels in each category, identifying vessels that have actively fished with the applicable gear types and might therefore be affected by changes to the ALWTRP. After identifying and removing vessels that operate within exempt waters, each of the remaining vessels is assigned to the appropriate model vessel category.

The product of the annual compliance costs for each model vessel and the number of affected vessels in each category provides an estimate of annual compliance costs for the category as a whole. The sum of compliance costs across all vessel categories provides an estimate of annual compliance costs for the commercial fishing industry.

8.2.3 Economic Impact Results

Exhibit 8-2 summarizes estimated industry compliance costs for each of the regulatory alternatives, breaking the results down by fishing sector (lobster, other trap/pot, and gillnet). As shown, the incremental costs imposed on the fishing industry would equal approximately $14.2 million per year under Alternatives 2, 3 (Preferred), 4, and 6 (Preferred). The impact of the new standards on lobster vessels would account for over 90 percent of these costs.

Aside from Alternative 1 (No Action), the only regulatory alternative that differs significantly from the others with respect to estimated economic impacts is Alternative 5. The analysis suggests that this alternative would impose incremental regulatory costs of approximately $1.0 million annually. The costs are lower because Alternative 5 would not impose as broad a set of gear modification requirements, but would instead modify the SAM zone and focus primarily upon the regulation of vessels fishing in that zone.

Exhibit 8-2

ESTIMATED INCREASE IN ANNUAL ALWTRP COMPLIANCE COSTS

Economic Impact	Regulatory Alternative	Lobster Trap/Pot Vessels	Other Trap/Pot Vessels	Gillnet Vessels	Total
Average Increase in Annual Compliance Costs For Vessels Affected by Changes in ALWTRP Regulations	Alternative 1 (No Action)	$0	$0	$0	N.A.
	Alternative 2	$3,484	$1,055	$917	N.A.
	Alternative 3 (Preferred)	$3,483	$1,060	$925	N.A.
	Alternative 4	$3,484	$1,055	$923	N.A.
	Alternative 5	$210	$184	$163	N.A.
	Alternative 6 (Preferred)	$3,482	$947	$925	N.A.
Number of Vessels Affected by Changes in ALWTRP Regulations	Alternative 1 (No Action)	0	0	0	0
	Alternative 2	3,686	418	1,044	5,148
	Alternative 3 (Preferred)	3,684	413	1,024	5,121
	Alternative 4	3,686	418	1,035	5,139
	Alternative 5	3,684	416	1,024	5,124
	Alternative 6 (Preferred)	3,684	416	1,024	5,124
Total Increase in Annual Compliance Costs for Vessels Affected by Changes in ALWTRP Regulations	Alternative 1 (No Action)	$0	$0	$0	$0
	Alternative 2	$12,844,000	$440,900	$957,300	$14,242,200
	Alternative 3 (Preferred)	$12,830,500	$438,100	$946,700	$14,215,300
	Alternative 4	$12,844,000	$440,900	$955,600	$14,240,500
	Alternative 5	$773,800	$76,500	$167,300	$1,017,700
	Alternative 6 (Preferred)	$12,826,700	$394,000	$947,300	$14,168,100

Notes:
N. A. = Not Applicable
Totals may not sum due to rounding

8.3 SOCIAL IMPACTS

The analysis of social impacts considers how compliance with the regulatory alternatives could affect the socioeconomic viability of fishing, fishermen's quality of life, and the economic welfare of the general public.

8.3.1 Potentially Affected Communities

The social impact analysis first uses county-level data on affected fishing vessels to identify the communities at greatest risk of experiencing adverse social impacts stemming from the ALWTRP modifications under consideration. The analysis uses additional county-level socioeconomic data to characterize key features of the at-risk communities, examining economic, demographic, and social features that may influence the impact of the regulations on the region.

The analysis defines at-risk counties as those with over 100 active vessels that must comply with ALWTRP requirements and which report annual landings of greater than two million pounds by vessels using gear potentially subject to regulation under the ALWTRP. Based on these criteria, Exhibit 8-3 lists the at-risk counties. The list is heavily weighted toward the Northeast, particularly several coastal counties in Maine where lobstering is prevalent. Although the dealer and processing sectors are small to medium in size in these areas, they are frequently part of small communities and play an important role in regional economies in the state. Several of the Maine counties are rural and have limited economic diversification and/or higher than average unemployment and poverty rates. Other at-risk communities include urbanized ports (e.g., Gloucester, Portland, New Bedford) where fishing activities are linked to major processing operations.

Exhibit 8-3

KEY COMMUNITIES AFFECTED BY ALWTRP MODIFICATIONS

At-Risk County[1]	State	Major Ports[2]
Cumberland	ME	Portland, Harpswell
Hancock	ME	Stonington/Deer Isle
Knox	ME	Rockland, Vinalhaven
Lincoln	ME	South Bristol, Boothbay Harbor
Washington	ME	Beals Island and Jonesport, Cutler, Eastport, Lubec
York	ME	Kennebunkport/Cape Porpoise
Rockingham	NH	Hampton/Seabrook, Portsmouth, Isle of Shoals
Essex	MA	Gloucester, Rockport, Marblehead
Plymouth	MA	Plymouth, Scituate
Barnstable	MA	Sandwich, Hyannis, Chatham, Provincetown
Bristol	MA	New Bedford, Fairhaven, Westport
Washington	RI	Point Judith/Galilee
Newport	RI	Jamestown, Newport, Tiverton, Sakonnet Point
Suffolk	NY	Hampton Bays, Montauk, Greenport
Ocean	NJ	Point Pleasant, Long Beach/Barnegat Light

Notes:

1 For this analysis, at-risk counties are defined as those with over 100 active vessels that must comply with ALWTRP requirements and which report annual landings of greater than two million pounds by vessels using gear potentially subject to regulation under the ALWTRP. This list is heavily weighted toward the Northeast, particularly several coastal counties in Maine where lobstering is prevalent.

2 Major ports based on Hall-Arber et al. (2001) and McCay and Cieri (2000).

8.3.2 Comparison of Vessel Compliance Costs to Ex-Vessel Revenues

To further examine the potential for socioeconomic impacts from the revised ALWTRP requirements, this analysis considers the economic burden placed on different classes of vessels. Placing vessel compliance costs in the context of typical ex-vessel revenues helps determine whether the costs will be significant enough to cause behavioral changes (e.g., vessel retirement) on the part of vessel operators. The analysis defines "heavily affected" vessels as those for which annual compliance costs exceed 15 percent of average annual revenues. The analysis further defines "at risk" vessels as those for which annual compliance costs are between 5 and 15 percent of annual revenue.

Although the potential for adverse social impacts is significant, a comparison of annual vessel compliance costs to vessel revenue suggests that a limited subset of fishing vessels are likely to face costs significant enough to drive them out of business. Although uncertainties exist in the analysis, the most heavily affected vessels appear to be few in number (relative to the full set of potentially affected vessels) and small in size. Therefore, they employ a relatively small number of fishermen (about two percent of those on all potentially affected vessels) and account for a relatively small share of landings. In reality many fishermen would likely adjust to the modified ALWTRP regulations (e.g., fish in exempted waters) rather than leave fishing. These adjustments, combined with the fact that small decreases in landings would likely be made up by other vessels, suggests that impacts on dealers and processors would be minor.

Numerous other vessels (approximately 2,600) fall in the at-risk vessel category. The at-risk vessels are dominated by Class II lobster vessels; of these, the most affected subsets are vessels in Maine, which are estimated to have greater gear loss costs. It is difficult to gauge how these vessel operators may respond to the ALWTRP modifications under consideration. However, to the extent that these vessels are driven out of business, social and economic impacts could be significant.

Most of the regulatory alternatives under consideration vary little with respect to their potential social and socioeconomic impacts. The number of vessels considered heavily affected is essentially identical under Alternatives 2, 3 (Preferred), 4, and 6 (Preferred). The socioeconomic implications of these alternatives vary little because most of the vessels the analysis identifies as heavily affected are based in the Northeast, where the provisions of Alternatives 2, 3 (Preferred), 4, and 6 (Preferred) do not vary. Analysis of Alternative 5 (the modified SAM) shows very few vessels would face compliance costs that qualify them as heavily affected.

8.3.3 Other Socioeconomic Impacts

Other negative and positive socioeconomic impacts may occur as the result of the implementation of ALWTRP modifications. These impacts are discussed in sections 8.3.3.1 and 8.3.3.2, respectively.

8.3.3.1 Negative Impacts

Fishermen may realize a variety of other negative social impacts in complying with ALWTRP modifications:

- To avoid the requirements associated with the new ALWTRP regulations, fishermen may choose to fish increasingly in exempted waters. This relocation could consequently cause vessel congestion, gear conflicts, and competition for fishing grounds in exempted bays and harbors to increase.

- Furthermore, revised ALWTRP gear modifications may result in an increased incidence of gear loss. In addition to the costs incurred to replace lost gear, fishermen may also spend more time and resources hauling, grappling for, and repairing gear. This could potentially increase the hours that fishermen spend at sea.

- Likewise, certain aspects of the ALWTRP modifications may have safety implications for fishermen. For example, sinking and/or neutrally buoyant groundline is more likely to snag on marine debris, and hauling snagged gear could be dangerous.

- Finally, the compliance cost burden may create a competitive disadvantage for smaller lobster vessels, causing industry consolidation.

8.3.3.2 Positive Impacts

Changes to the ALWTRP may also have a variety of positive social impacts. First, fishermen may experience safety benefits:

- Alternatives 2 through 6 include the elimination of the DAM program. Under Alternatives 2 through 4, the program would cease in 2008; under Alternatives 5 and 6, it would end within six months of promulgation of the new rule. Industry representatives have asserted that DAM provisions can be burdensome, requiring unanticipated gear removals that disrupt fishermen's schedules and that may cause safety issues in times of bad weather.

- Alternatives 2 through 6 call for elimination of current rules that limit trawls of five or fewer traps to one buoy line, lowering the cutoff to four or fewer traps. The addition of a buoy line may help avoid gear conflicts and reduce gear loss, grappling, and associated safety issues.

Second, to the extent that the new ALWTRP regulations successfully protect and restore whale populations, members of the public who view and photograph whales would benefit from the regulations. Annual revenues from the New England whale watching industry total approximately $30 million, and studies indicate that consumers' enjoyment increases with the number of whales and species sighted. Consequently, whale watch operators could benefit from increased ridership and revenues as whale populations stabilize or increase.

Economic research indicates that society places a value on the knowledge that unique environmental resources exist, even without using the resource directly (often referred to as the "existence value" of a resource). Therefore, the preservation of right, humpback, fin, and minke whales would have an existence value that is not explicitly quantified in this EIS.

The biological impacts analysis suggests that whale protection would be greatest under Alternative 2, slightly less under Alternatives 3 (Preferred), 4, and 6 (Preferred) (due to seasonal exemptions), and significantly less under Alternative 5. Therefore, the benefit that the general public derives from whale conservation would likely follow this same pattern.

8.3.4 Social Impacts Summary

Exhibit 8-4 summarizes the social impact conclusions discussed above.

8.4 INTEGRATION OF IMPACT ANALYSIS FINDINGS

Integration of the biological, economic, and social impact findings allows a meaningful comparison of the regulatory alternatives. Integrating these findings typically allows formulation of measures that characterize the benefits derived relative to the costs (or other negative effects)

incurred. However, in the case of the ALWTRP modifications, development of a unifying cost-benefit analysis is complicated by two factors:

- First, the costs and benefits are characterized using diverse metrics (e.g., dollars, increased use of low-risk gear, numbers of heavily affected vessels) that cannot be readily reduced to a single measure. In many cases, costs or benefits are described only in qualitative terms, or are characterized with imperfect indicators (e.g., comparative measures of risk reduction potential).

- Second, as acknowledged above, several of the regulatory alternatives – Alternatives 2, 3 (Preferred), 4, and 6 (Preferred) – have very similar implications. Because the impact estimates are subject to uncertainty, the minor variations that exist between these alternatives do not allow easy differentiation.

Differentiating among the alternatives therefore requires careful, critical consideration of the cost and benefit estimates developed. Because it would require year-round use of low-risk gear along the entire Atlantic coast, Alternative 2 clearly is the most conservative, risk-averse approach to the protection of endangered whales. However, the seasonal exemptions provided under Alternatives 3 (Preferred), 4, and 6 (Preferred) are premised on the movement of whales. Therefore, the residual potential for entanglement of whales in Mid-Atlantic or South Atlantic waters during summer months is minor; i.e., year-round requirements offer little marginal risk reduction benefit.

Exhibit 8-4

SUMMARY OF SOCIOECONOMIC IMPACTS BY ALTERNATIVE

Parameter	Alternative 1 (No Action)	Alternative 2	Alternative 3 (Preferred)	Alternative 4	Alternative 5	Alternative 6 (Preferred)
Number of Heavily Affected Vessels	0	219	219	219	2	219
Total Employment on Heavily Affected Vessels	N.A.	379	379	379	3	379
Impacts on Dealers	- Status quo; no additional impact	- Minor	- Minor	- Minor	- Minor	- Minor
Impacts on Processors	- Status quo; no additional impact	- Minor	- Minor	- Minor	- Minor	- Minor
Other Potential Negative Social Impacts	- Status quo; no additional impact	- Competition for fishing grounds in exempted waters - Safety and time implications of gear loss - Burden greatest on small vessels; potential industry consolidation	- Competition for fishing grounds in exempted waters - Safety and time implications of gear loss - Burden greatest on small vessels; potential industry consolidation	- Competition for fishing grounds in exempted waters - Safety and time implications of gear loss - Burden greatest on small vessels; potential industry consolidation	- Minor	- Competition for fishing grounds in exempted waters - Safety and time implications of gear loss - Burden greatest on small vessels; potential industry consolidation
Positive Social Impacts	- Status quo; no additional impact	- Removal of DAM may have positive social impact for fishermen - Public welfare benefits of increased whale protection (greatest benefit relative to other alternatives)	- Removal of DAM may have positive social impact for fishermen - Public welfare benefits of increased whale protection (slightly lesser benefit relative to Alternative 2)	- Removal of DAM may have positive social impact for fishermen - Public welfare benefits of increased whale protection (slightly lesser benefit relative to Alternative 2).	- Removal of DAM may have positive social impact for fishermen - Public welfare benefits of increased whale protection (significantly lesser benefit relative to Alternative 2).	- Removal of DAM may have positive social impact for fishermen - Public welfare benefits of increased whale protection (slightly lesser benefit relative to Alternative 2).
Note: N.A. = Not Applicable						

Furthermore, close examination of the compliance cost estimates suggests that the costs associated with the seasonal implementation of gear conversion requirements may be over-estimated. The analysis posits that fishermen will convert gear even if the requirements only apply in certain months, a very conservative assumption. According to comments provided by fishermen during the scoping process, many fishermen in the Mid- and South Atlantic use separate sets of gear to target different species at different times of year. If conversion of only winter gear is required, compliance costs will be less than those estimated. In addition, some of the fishermen in the Mid-Atlantic and South Atlantic areas may choose to confine their fishing effort to months when the requirements are not in effect, avoiding the regulation completely. Such behavior would reduce the cost of complying with Alternatives 3, 4, and 6 without increasing risk to whales.

Based on consideration of the relative costs and benefits of the alternatives, NMFS has selected Alternatives 3 and 6 as its preferred alternatives, with the intent of identifying only one alternative in the FEIS. These alternatives offer the flexibility of seasonal restrictions for both the Mid- and South Atlantic regions, potentially allowing fishermen to pursue lower-cost compliance strategies. The risk-reduction tradeoff is minimal, given that entanglement risk in the Mid- and South Atlantic is low in the summer months (due to whale migratory patterns). Alternative 6 offers the added protection of temporarily expanding the SAM zone; while the SAM requirements would eventually be eliminated, they would remain in effect until the broad-based gear modifications are fully implemented in 2008.